

**What is Claimed is:**

1. A method for forming a transistor of a semiconductor device, comprising the steps of:

5 forming a gate electrode on a semiconductor substrate;

ion-implanting impurities into the semiconductor substrate using the gate electrode as a mask to form a source/drain junction region by;

10 forming an oxide film on the resulting structure at a temperature below 700°C; and

forming a nitride film spacer on a sidewall of the gate electrode.

15 2. The method according to claim 1, wherein the step of ion-implanting impurities comprises ion-implanting  $^{31}\text{P}$  at an energy ranging from 10 to 35KeV and at a dose ranging from  $1.0\text{E}12$  to  $5.0\text{E}13$  ions/cm<sup>2</sup>.

20 3. The method according to claim 1, wherein the step of ion-implanting process impurities comprises ion-implanting  $^{75}\text{As}$  at an energy ranging from 15 to 70KeV and at a dose ranging from  $1.0\text{E}12$  to  $5.0\text{E}13$  ions/cm<sup>2</sup>.

4. The method according to claim 1, wherein the ion-implanting process is performed using a single-type equipment without wafer tilt and rotation.

5 5. The method according to claim 1, wherein the ion-implanting process is performed with a tilt of  $1^{\circ}$  and in a bi-rotation or a quadruple-rotation configuration using a single-type equipment.

10 6. The method according to claim 1, wherein the step of forming an oxide film is a CVD or a PVD process.

7. The method according to claim 1, wherein the step of forming an oxide film comprises depositing the  
15 oxide film via a CVD or a PVD process performed at a temperature below  $600^{\circ}\text{C}$ , and performing thermal treatment of the semiconductor substrate at a temperature ranging from 600 to  $700^{\circ}\text{C}$  under a nitrogen gas atmosphere.

20 8. The method according to claim 7, wherein the thermal treatment is a rapid thermal treatment performed for 1 to 5 minutes or a thermal treatment performed in a furnace for a time period ranging from 1 minutes to 6 hours.

9. The method according to claim 7, wherein the thermal treatment is in a furnace for 1 minutes to 6 hours.